FEATURES MAGAZINE SECTION FICTION
THE SUNDAY AGE-HERALD
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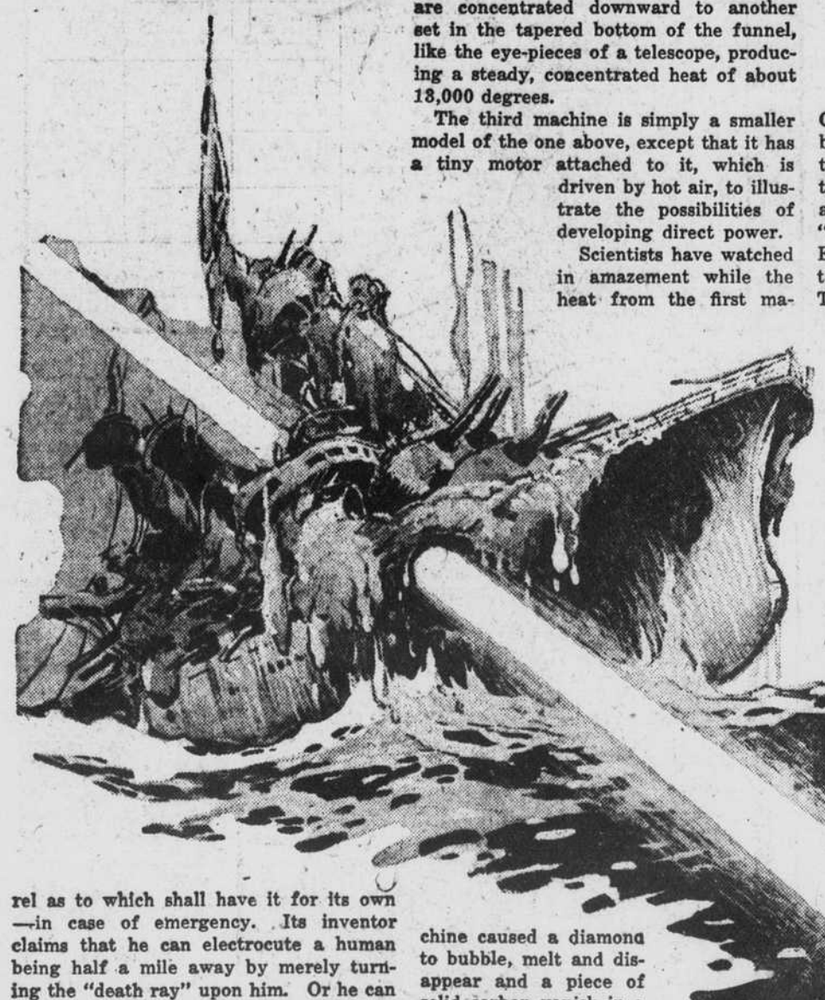
Science Finds a Terrific New Heat Ray That Melts Diamonds and Battleships

Amazing Results Achieved by a Californian Who Has Harnessed Sunbeams and Turned Them Into the Greatest Known Force

TWO amazing rays have just been developed by scientists that are astounding the world.

One of them will harness the dancing sunbeams and turn them into heat so terrific that it will melt diamonds and cause battleships to turn into molten steel.

The other is so diabolical in its machinations that they call it the "death ray," and England and France are already in a quarrel as to which shall have it for its own—in case of emergency. Its inventor claims that he can electrocute a human being half a mile away by merely turning the "death ray" upon him. Or he can start or stop a motor car or an airplane at an equal distance.



The man who has harnessed the sunbeams is an American of French descent, Marcel Moreau, who lives in California. By a combination of mirrors and magnifying lenses he has produced a temperature of 15,000 Fahrenheit, which is at least 5,000 degress higher than has ever been produced in an electric crucible or furnace. He practically brings to the earth the flames of the sun. Just what this means may be judged from the fact that the flame that shoots from an acetylene torch, capable of boring its way through half-inch Harveyized steel, is three inches long, while the flames from the sun shoot out for a distance of 2,500,000 miles!

If Moreau's ray were focused upon a battleship lying a mile away, it would bore a hole through the ship from stem to stern, the inventor claims. If this withering heat were flooded on the vessel at close range, it would melt it to the water's edge. It will not only melt diamonds but it will, when moderated, create them just as they were made under the terrific heat which followed the birth of the world.

Moreau has invented three different models of his device for harnessing the sun.

The first and most powerful, which creates the greatest heat of which there is any record, is an open steel framework about six feet wide and five feet deep, on which are set up twenty-two rectangular flat mirrors each ten by twelve inches in size.

Twenty-two powerful magnifying glasses or lenses, each six inches in diameter, catch and magnify the rays from each mirror and focus them on a large central lens.

Through this lens the rays are concentrated on a small area, shooting downward through a tube. This tube, built of firebrick, would be immediately melted if the end were closed up. Instead, the rays pass through it, creating their maximum heat at the point where they emerge.

The hardest substances when subjected to this concentrated heat—including babbitt metal, flint rock, mica, steel, scrap iron, quartz, crystal and diamonds—melt quickly and disappear in the form of gas.

The second machine, which produces a heat almost as great, consists of a bowl or funnel, four feet wide at its top, completely lined with 1,575 mirrors, each of which has a lens or magnifying glass attached to it. The multitudinous rays from these lenses are concentrated downward to another set in the tapered bottom of the funnel, like the eye-pieces of a telescope, producing a steady, concentrated heat of about 13,000 degrees.

The third machine is simply a smaller model of the one above, except that it has a tiny motor attached to it, which is driven by hot air, to illustrate the possibilities of developing direct power.

Scientists have watched in amazement while the heat from the first machine caused a diamond to bubble, melt and disappear and a piece of solid carbon vanish in a puff of smoke with only half the machine's power turned on. They saw, too, platinum, vanadium, molybednum and the other metals that require the highest temperatures to melt, turned to vapor in less than a minute.

The inventor has a method of regulating the machine and can figure to a degree the amount of heat he wants to develop. He was aided by his father, Gratien Moreau, in the experiments. An amusing feature of their activities is that while they were engaged in the early stages of the work, Moreau, senior, used to "tune down" the terrific heat and broil bacon, held on an ordinary fork, for his own and his son's lunch.

The greatest general interest which is attached to the invention is the fact that it may be turned into general use, to develop heat and power at a cost materially less than either water, steam, or electricity.

Death Valley, California, where the force of the sun is more terrific than at any other point in the country, and where it is rarely hidden by clouds, is to be the scene of later experiments with larger solar furnaces. Here the inventor, who has already produced a number of synthetic gems in the rough, expects to be able to turn them out in any quantity desired.

The three oldest dreams of the scientists have been the harnessing of the sun, of the ocean tides and of volcanic heat. Moreau, it is believed, has solved the most important of them.

While he has been making this dream a reality,

The Small Sun-Focusing Machine with Tiny Motor Attached, Being Demonstrated by Gratien Moreau, Father of the Inventor.

Grindell Matthews, an Englishman, has been developing the "death ray." Although it has stirred up a vast amount of trouble, no one seems to know just exactly what the ray is, except that it is "something terrible." Matthews is an Englishman and most of his experiments to date have been made on English soil. Then, all of a sudden, he packed up and went to France. There he has since been working in association with Eugene Royers, Frenchman, who invented a ray that cuts steel under water by means of "luminous vibrations."

Immediately the English Government set up a great hue and cry, declaring that such an amazing, death-dealing invention should not be allowed to fail into the hands of what might some day prove an enemy government. That matter is now up in Parliament.

In describing his murderous ray, Matthews said:

"It is not a single ray, but a combination of three or four vibrations. When directed against a magneto it short-circuits it by forming an invisible path for magneto energy as effectively as though a wire were used. Unlike the X-ray, it can, under certain conditions, be reflected or refracted. On my ray I can put a high potential current, direct it against a man and electrocute him."

Matthews also thinks that his ray will be of great assistance in the treatment of cancer.

On the other hand, the chief interest in the Moreau invention lies in its general utility for the production of heat and power. Each of them, while able to do so much for humanity, may also be frightful as destructive agencies.

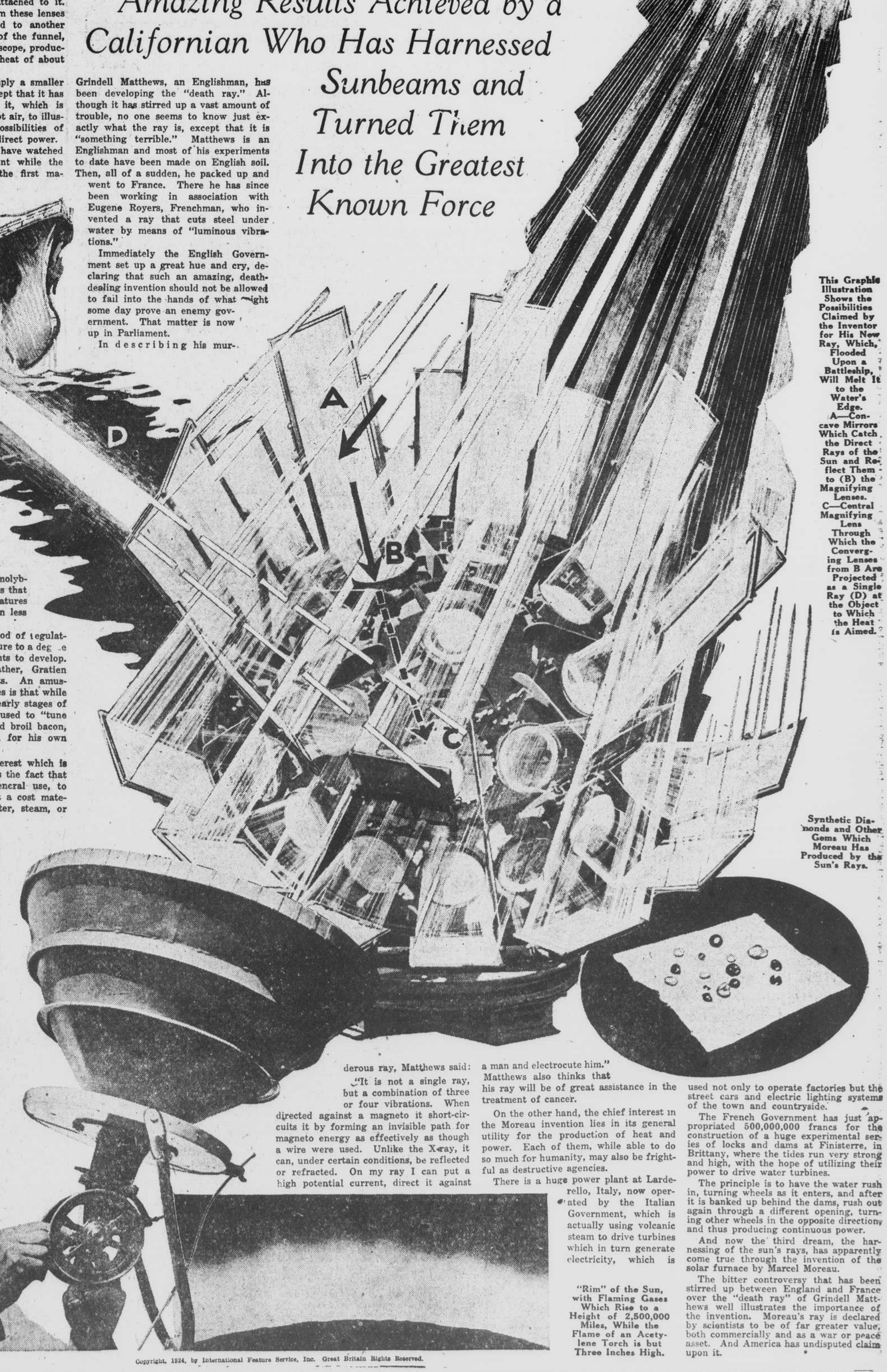
There is a huge power plant at Larderello, Italy, now operated by the Italian Government, which is actually using volcanic steam to drive turbines which in turn generate electricity, which is used not only to operate factories but the street cars and electric lighting systems of the town and countryside.

The French Government has just appropriated 500,000,000 francs for the construction of a huge experimental series of locks and dams at Finisterre, in Brittany, where the tides run very strong and high, with the hope of utilizing their power to drive water turbines.

The principle is to have the water rush in, turning wheels as it enters, and after it is banked up behind the dams, rush out again through a different opening, turning other wheels in the opposite direction, and thus producing continuous power.

And now the third dream, the harnessing of the sun's rays, has apparently come true through the invention of the solar furnace by Marcel Moreau.

The bitter controversy that has been stirred up between England and France over the "death ray" of Grindell Matthews well illustrates the importance of the invention. Moreau's ray is declared by scientists to be of far greater value, both commercially and as a war or peace asset. And America has undisputed claim upon it.



This Graphic Illustration Shows the Possibilities Claimed by the Inventor for His New Ray, Which, Flooded Upon a Battleship, Will Melt It to the Water's Edge. A—Concave Mirrors Which Catch the Direct Rays of the Sun and Reflect Them to (B) the Magnifying Lenses. C—Central Magnifying Lens Through Which the Converging Lenses from B Are Projected as a Single Ray (D) at the Object to Which the Heat Is Aimed.

Synthetic Diamonds and Other Gems Which Moreau Has Produced by the Sun's Rays.

"Rim" of the Sun, with Flaming Gases Which Rise to a Height of 2,500,000 Miles, While the Flame of an Acetylene Torch is but Three Inches High.

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